

REMARKS

The following remarks are provided in response to the Office Action dated July 9, 2007. Claims 1-11 are currently pending in the above-identified patent application. In the Office Action, claims 1-11 were rejected on several grounds: claims 1 and 7 stand rejected under 35 USC § 112, first paragraph, as allegedly failing to comply with the enablement requirement; claims 1-3, 5-7 and 9-11 stand rejected under 35 USC 103(a) as allegedly unpatentable over Shimamura et al. (US 2003/0153372) in view of Lee (US 2004/0198433); claim 4 stands rejected under 35 USC 103(a) as allegedly unpatentable over Shimamura in view of Lee and further in view of Priestman et al. (US 2005/0245288); and claim 8 stands rejected under 35 USC 103(a) as allegedly unpatentable over Shimamura in view of Lee and further in view of Priestman and further in view of Wakabayashi et al. (US Patent No. 5,666,565). Claims 1 and 7 have been amended to clarify the rejected claims. The claims, as amended, are clearly supported by the specification as filed and are not rendered obvious by the cited prior art. For those reasons, as explained in more detail below, Applicants respectfully submit that pending claims 1-11 are allowable.

Rejection under 35 USC § 112, first paragraph

Claims 1 and 7 stand rejected under 35 USC § 112, first paragraph, as allegedly failing to comply with the enablement requirement. According to the Office Action, "the specification is specifically unclear about 'said optical axis of said camera module substantially coincident with said axial line' and as to what element(s) constitute the 'image-taken [sic] element.'" The Office Action further states that "claims 1 and 7 do not specifically define the direction of the mobile terminal in relationship with the 'optical axis' and the 'axial line.'" In response, Applicants note that Applicants' specification, unambiguously describes the direction

of the optical axis relative to the overall mobile terminal device and explains in sufficient detail the image-taking element. For example, the specification explains the following:

In the mobile phone device 1 according to the first embodiment of the present invention, the camera module 40 which is disposed such that the optical axis coincides with the axial line C is contained in the connecting unit 30 which connects the first casing 10 and the second casing 20 which are overlapped on each other so as to freely rotate around the axial line C which is along the direction in which the first casing 10 and the second casing 20 are overlapped. The lens surface 47 in the camera module 40 is directed to the object to be taken via the picture-capturing window 56 which is disposed on a rear surface 12 of the first casing 10. Thus, it is possible for an operator of the mobile terminal device with a camera to take a picture of a image while observing an image to be taken which is displayed in the display section which is disposed on the front surface 21 on the second casing 20 such that pictures can be taken in a naturally uninterrupted manner.

Applicants' Published Application US 2004/0228075 at [0047].

The specification further explains:

Here, the optical axis in the camera module 40 is disposed so as to be along the thickness direction of the overlapped section of the casings 10 and 20; thus, it is possible to obtain a sufficient length for the optical system in the camera module which is substantially twice as long as the thickness of the casings 10 and 20 without increasing the thickness of the casings 10 and 20. Also, it is possible to realize a more flexible design for the optical system in the camera module 40. In addition, it is not necessary to deflect the optical axis of the incident light which is incident to the camera module 40 by an optical member such as a mirror or a prism; therefore, it is possible to realize a more accurate optical axis and reduce the cost of the device.

Applicants' Published Application US 2004/0228075 at [0048].

The image-taking element is described in the preferred embodiment as the image taking section, which is described, for example as follows:

As shown in FIG. 3, the camera module 40 comprises an image taking element section 41 such as a CMOS (complementary metal-oxide semiconductor) and a CCD (charge-coupled device) and two lenses 42 and 43 which forms an image of the object to be taken on

a focal plane of the image taking element section 41. Thus, the camera module 40 is formed so as to be a single-focal-distance camera in which these members are contained and fixed in a cylindrical casing 44. An image of an object to be taken which is focused on a focal plane of the image taking element section 41 is converted to an electric signal, and such a image to be taken is displayed in the display section 23. Here, reference numeral 45 indicates a cable which connects the image taking element section 41 and the base board 26 which is formed in the second casing 20. Reference numeral 46 indicates a cable which is connected to the base board 16 in the first casing 10 for controlling the camera for activating a shutter.

Applicants' Published Application US 2004/0228075 at [0040].

Accordingly, as explained in the cited portion of Applicants' original specification, as published, the optical axis of the camera module 40 shown in the preferred embodiment is disposed so as to be along the thickness direction (or along axial line C as shown in the figures) of the mobile device. To clarify claims 1 and 7, Applicants have amended those claims to recite that "said axial line and said optical axis [are] disposed in a thickness direction of said mobile terminal device." In view of Applicants' remarks and claim amendments, Applicants respectfully submit that the rejection of claims 1 and 7 under 35 USC § 112, first paragraph, as allegedly failing to comply with the enablement requirement has been overcome.

Rejections Under 35 USC § 103(a)

Claims 1-3, 5-7 and 9-11 are not rendered obvious by the combination of Shimamura and Lee. As recognized by the Office Action, even if combined, Shimamura and Lee fail to teach or suggest all the elements of independent claims 1 and 7. In the Office Action, it is recognized that Shimamura (and Lee) "**fails to teach** the camera module having a lens and an image-taking element so as to form an optical axis passing through said lens and said image-taking element, said camera module being disposed inside of said hollow space, with said optical axis substantially coincident with said axial line." Office Action at 6 (emphasis added). Lee is

admittedly unavailing in providing the missing elements of claims 1 and 7. As recognized in the Office Action, Lee is cited only for its teaching of "a portable wireless terminal 100 including a camera inside a hinge and a camera lens."

Claims 1 and 7 now recite, in part, "a camera module having a lens and an image-taking element so as to form an optical axis passing through said lens and said image-taking element, said camera module being disposed inside of said hollow space, with said optical axis substantially coincident with said axial line, said axial line and said optical axis being disposed in a thickness direction of said mobile terminal device" This claimed structure is advantageous in that it is possible to obtain a sufficient length of the optical axis for the camera module without increasing the thickness of the casings. Additionally, it is possible to save space with the casings because it is not necessary to have a particular space for holding the camera module in the casings. Because both Shimamura and Lee fail to disclose or suggest this element of claims 1 and 7 (or their advantages), and the Office Action fails to provide any reason why one of ordinary skill in the art would locate the camera module inside the connecting section and having an optical axis as oriented in the claimed device, Applicants respectfully submit that the combination of Shimamura and Lee do not render obvious independent claims 1 and 7. Also, for the same reasons, all claims dependent on claims 1 and 7 are not obvious over the combination of Shimamura in view of Lee.

Claims 2 and 3 are also not obvious over the combination of Shimamura and Lee on additional grounds. Claim 2 further requires "a display section which displays an image which is taken by said camera module; wherein said display section is disposed so as to be substantially orthogonal to said axial line of either one of said two casings." Claim 3 further requires "a sensor which measures a relative angle made by one of said two casings on which

said camera module is disposed and the other of said two casings on which said display section is disposed, wherein an image which is taken by said camera module is displayed on said display section in a rotated manner according to the measurement result by said sensor." Neither Shimamura nor Lee (including the portions thereof cited by the Examiner) disclose the elements of claims 2 and 3 as recited above. Accordingly, claims 2 and 3 are not obvious over Shimamura and Lee.

Claim 4 stands rejected under 35 USC 103(a) as allegedly unpatentable over Shimamura in view of Lee and further in view of Priestman. Claim 4, which depends from claim 1 further requires, that "said camera module is fixed to said casing in which said display section is disposed." For this aspect of claim 4, the Office Action relies on Priestman. Priestman shows a camera located in a fixed position in the casing also housing the display. However, Priestman fails to show a camera module located in the connection section. Moreover, the Office Action fails to provide any reason why one of ordinary skill in the art would combine Priestman with the two other cited reference to render claim 4 obvious. Accordingly, claim 4 is not rendered obvious by the cited art.

Claim 8 stands rejected under 35 USC 103(a) as allegedly unpatentable over Shimamura in view of Lee and further in view of Priestman and further in view of Wakabayashi. Claim 8, which depends on claim 7, further requires "a fixed cylinder as part of said camera module, which acts as a casing for said camera module; a cam cylinder as part of said camera module, which is fit in the peripheral surface of said fixed cylinder movably along said axial line; a linear groove provided on the peripheral wall of said fixed cylinder in parallel with said axial line; a cam groove provided on the peripheral wall of said cam cylinder in parallel with said axial line; and a pin provided with a lens on the tip thereof, which penetrates said linear groove to connect with said cam groove movably along said axial line." The combination of those four prior art

references do not render obvious claim 8. As recited above, claim 8 requires in part a "fixed cylinder . . . " The Office Action explains that item 4 as shown in Wakabayashi is the fixed cylinder which acts as a case in for said camera module. However, this is incorrect.

Wakabayashi makes clear that item 4 is a supporting tube that is not fixed; rather, "supporting tube 4 is axially moved forward or backward by the rotation of said rotatable tube 3."

Wakabayashi at col. 3, lines 8-10. Claim 8 further requires "a linear groove provided on the peripheral wall of said fixed cylinder in parallel with said axial line." The Office Action explains groove 10a meets that limitation of claim 8. However, this is incorrect. Grooves 10a are described in Wakabayashi as being provided in the guide tube 10 not supporting tube 4. Claim 8 further requires "a cam groove provided on the peripheral wall of said cam cylinder in parallel with said axial line." The Office Action explains cam grooves 16a are provided on the peripheral wall of the cam cylinder 16 in parallel with the axial line. However, this is incorrect.

Wakabayashi describes grooves 16a as circumferential grooves. For at least, those reasons, claim 8 is not rendered obvious by the combination of Shimamura, Lee, Priestman and Wakabayashi.

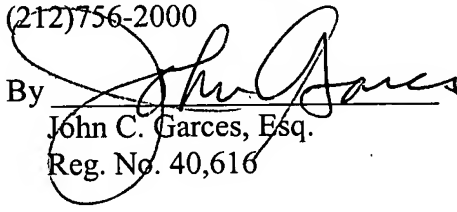
Applicants respectfully submit that by this response all rejections have been overcome and informalities have now been corrected, and the application is in condition for allowance.

The Patent and Trademark Office is authorized to charge any fees required for the entry of this Response, including fees for an extension of time, and any further fees that are properly assessable in this case, or to credit any overpayment, to Deposit Account No. 50-0675, Order No. 848075/0073. In the event that an extension of time is needed for entry of this Response that is not otherwise provided for, such extension of time is hereby respectfully requested.

Respectfully submitted,

Schulte Roth & Zabel LLP
Attorneys for Applicants
919 Third Avenue
New York, NY 10022
(212)756-2000

By


John C. Garces, Esq.
Reg. No. 40,616

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New York, New York